positions is illustrated in FIG. **8**. The foil stack is arranged at a first distance above the joining stack, as has been described with respect to FIG. **3** above. Again, a transportation unit configured to pick up and transport the first carrier element **60** is not explicitly illustrated in FIGS. **7** to **9**. The support frame **44** may be placed on the first part **41** by means of a second carrier element **46**, for example. In FIGS. **7** and **8**, the second carrier element **46** is illustrated in a holding position. For example, the second section **442** of the support frame **44** may form a protrusion which allows the second carrier element **46** to lift the support frame **44** in the vertical direction y. The second carrier element **46** may be part of a robotic unit, for example (not specifically illustrated in FIGS. **7-9**). Once the support frame **44** is arranged in its final resting position, the second carrier element **46** may be removed, as is exemplarily illustrated in FIG. **9**. FIG. **9** schematically illustrates the arrangement of FIGS. **7** and **8** while exerting a force F to the joining stack.

[0044] As has been mentioned above, the joining process may be performed in a process chamber. The process chamber **100** may comprise one or more separate sub-chambers, for example. According to one example (see FIG. **10**), the process chamber **100** comprises a single sub-chamber. For example, the one or more foils **50**, **51** may first be arranged above the joining stack and subsequently the arrangement comprising the joining stack and the foil stack may be transferred into the process chamber **100**. According to another example, the joining stack may be assembled inside the process chamber **100** and the at least one foil **50**, **51** may subsequently be arranged above the joining stack. The process chamber **100** may then be closed and a defined atmosphere may be generated inside the process chamber **100**. For example, a vacuum may be generated inside the process chamber **100** or the process chamber **100** may be filled with a protective gas. Then, the joining process may be performed by applying pressure to the joining stack and subsequently, the joining stack may remain in the process chamber **100** in the defined atmosphere until it has cooled down to a defined temperature. This, however, is only an example. If the process chamber **100** comprises only a single sub-chamber, performing a plurality of subsequent joining processes requires a comparably long time. This is, because each joining stack needs to remain in the same sub-chamber of the process chamber **100** from the beginning of the process (generating a controlled atmosphere) until the very end of the process (joining stack cooled down to defined temperature).

[0045] Therefore, in some cases it might be more efficient if the process chamber **100** comprises two or more sub-chambers. An arrangement for joining two joining members that is arranged in a process chamber **100** comprising three sub-chambers **101**, **102**, **103** is exemplarily illustrated in FIG. **11**. The one or more foils **50**, **51** may first be arranged above the joining stack and subsequently the arrangement may be transferred into the first sub-chamber **101** of the process chamber. It is also possible to arrange the foil stack with respect to the joining stack inside the first sub-chamber **101**. A defined atmosphere may be created inside the first sub-chamber **101**.

[0046] The joining stack and the foil stack may then be transferred to a second sub-chamber **102**. The actual joining process may be performed in the second sub-chamber **102**. A passage between the first sub-chamber **101** and the second sub-chamber **102** may be sealed while the joining process is performed in the second sub-chamber **102**. While the joining process is performed in the second sub-chamber **102**, the next foil stack may be arranged on the next joining stack in the first sub-chamber **101** and the defined atmosphere may be generated in the first sub-chamber **101**. After performing the joining process, the joining stack may be transferred to a third sub-chamber **103**. The third sub-chamber **103** may also provide a defined atmosphere. That is, the joining stack may cool down in the third sub-chamber **103** in a defined atmosphere. At the same time, the next joining stack may be moved from the first sub-chamber **101** to the second sub-chamber **102** and the next joining process may be performed. Simultaneously, another joining stack and foil stack may be transferred to the first sub-chamber **101** and a defined atmosphere may be generated. In this way, different joining stacks may be arranged in the different sub-chambers **101**, **102**, **103** and different sub-processes may be performed simultaneously.

[0047] After joining the joining members **10**, **20**, it is possible that only the joined joining members **10**, **20** are transferred to the third sub-chamber **103**. The foil stack, on the other hand, may be transferred back to the first sub-chamber **101**, for example, to be reused in the next joining process.

[0048] At least some of the foils **50**, **51** may be reused for a following joining process. For example, the compensation foil **50** may be used during two or more joining processes (e.g., 20 joining processes). The protective foil **51** may also be used during two or more joining processes. According to one example, the protective foil **51** may be replaced more frequently than the compensation foil **50**. Arranging the foils **50**, **51** on the first carrier element **60** simplifies the process of exchanging one or more foils in between two joining processes. The exchange of one or more foils **50**, **51** may be performed inside the first sub-chamber **101**, for example. Exchanging one or more foils **50**, **51** may be performed manually or automated. In the third sub-chamber **103**, the joined joining members **10**, **20** may be further treated. For example, the joining members **10**, **20** may be cleaned or cooled down in the third sub-chamber **103**. If a support frame **44** is used for carrying the joining members **10**, **20**, the joining members may be unloaded from the support frame **44** inside the third sub-chamber **103** or after removing the joining members **10**, **20** from the third sub-chamber **103**.

[0049] According to another example, as illustrated in FIG. **12**, the arrangement may be assembled before transferring the arrangement to the first sub-chamber **101**, as has been described with respect to FIG. **11** above, or the assembly may take place inside the first sub-chamber **101**. A defined atmosphere may be generated inside the first sub-chamber **101** and the joining stack may then be transferred to the second sub-chamber **102**. The joining process may subsequently be performed in the second sub-chamber **102**. The foil stack, however, may subsequently be transferred to the third sub-chamber **103** together with the joining members **10**, **20**. That is, the foil stack may pass through the same sub-chambers **101**, **102**, **103** as the joining members **10**, **20**. After exiting the third sub-chamber **103**, the foil stack may be transferred back to the first sub-chamber **101**, while the joining members **10**, **20** are removed from the arrangement. According to an even further example, which is schematically illustrated in FIG. **13**, the foil stack may be prepared in the third sub-chamber **103** or before transferring the foil stack to the third sub-chamber **103**, while the joining mem-